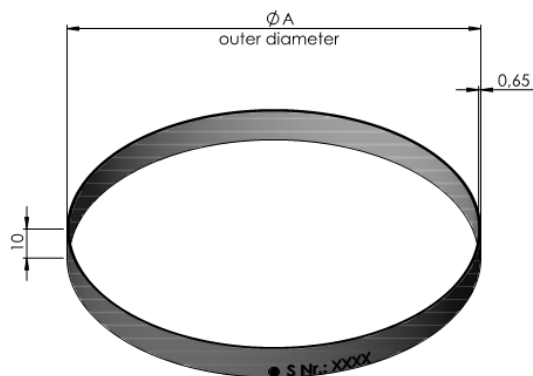


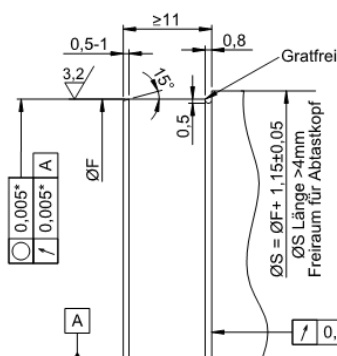
Incremental scale tape ring for outside scanning WMR 1010 A

- In combination with the scanning head WMK 2010 / WMK 1010
- Grating period 1000µm



WMR 1010A

Mechanical requirements on the carrier flange



Line count	ØF [mm]
256 to 359	$N/\pi - 0,84 \pm 0,01$
360 to 511	$N/\pi - 0,77 \pm 0,01$
512 to 719	$N/\pi - 0,73 \pm 0,02$
720 to 1024	$N/\pi - 0,70 \pm 0,02$
1025 to 1500	$N/\pi - 0,68 \pm 0,03$
1501 to 2000	$N/\pi - 0,65 \pm 0,06$
2001 to 3000	$N/\pi - 0,62 \pm 0,07$
3001 to 6000	$N/\pi - 0,60 \pm 0,10$
> 6000	$N/\pi - 0,55 \pm 0,10$

*) Recommended eccentricity: Greater eccentricities up to ~0,05mm do not affect the function of the device, but cause a proportional loss in positioning accuracy.

Technical data

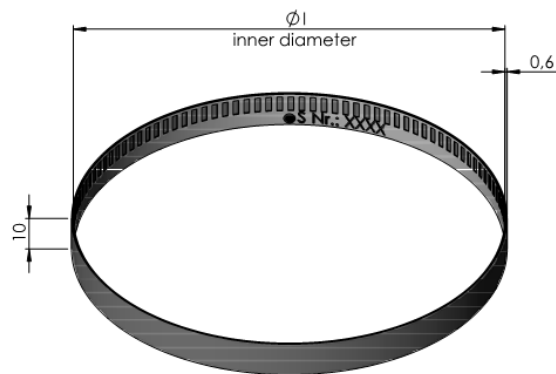
Scale tape ring WMR 1010A 1000µm									
Line count	256	360	512	720	900	1024	1440	1800	2048
Reference mark	Single or distance coded								
Grating period accuracy ¹⁾									
± 10µm arc length	±51″	±36″	±26″	±18″	±15″	±13″	±9,0″	±7,5″	±6,5″
± 5µm arc length	±26″	±18″	±13″	±9,0″	±7,5″	±6,5″	±4,5″	±4,0″	±3,5″
± 3µm arc length	±16″	±11″	±8,0″	±5,5″	±4,5″	±4,0″	±3,0″	±2,5″	±2,0″
Outside diameter ring [mm]	81,95	115,12	163,54	229,78	287,08	326,55	458,99	573,61	652,58
Mech. speed [min ⁻¹] ²⁾	46800	33300	23400	16600	13200	11700	8300	6600	5800
Max. angle acceleration [rad/s ²] ²⁾	4000					3800	1500	650	450

¹⁾ The position error per grating period and the accuracy of the grating result together in the encoder specific error; additional deviations caused by mounting and bearing are not considered in this error.

²⁾ Values should be considered to ensure a mechanical fault exclusion.

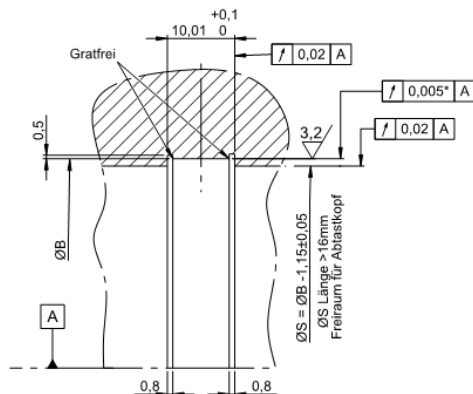
Incremental scale tape ring for inside scanning WMR 1110 I

- In combination with the scanning head WMK 2110 / WMK 1110
- Grating period 1000µm



WMR 1110I

Mechanical requirements on the carrier flange



Line count	ØB [mm]
512 to 719	$N/\pi + 0,73 \pm 0,01$
720 to 1024	$N/\pi + 0,67 \pm 0,02$
1025 to 1500	$N/\pi + 0,64 \pm 0,03$
1501 to 2000	$N/\pi + 0,60 \pm 0,06$
2001 to 3000	$N/\pi + 0,57 \pm 0,07$
3001 to 8000	$N/\pi + 0,54 \pm 0,10$

*) Recommended eccentricity: Greater eccentricities up to ~0,05mm do not affect the function of the device, but cause a proportional loss in positioning accuracy.

Technical data

Scale tape ring WMR 1110I 1000µm							
Line count	512	720	900	1024	1440	1800	2048
Reference mark	Single or distance coded						
Grating period accuracy ¹⁾							
± 10µm arc length	±26"	±18"	±15"	±13"	±9,0"	±7,5"	±6,5"
± 5µm arc length	±13"	±9,0"	±7,5"	±6,5"	±4,5"	±4,0"	±3,5"
± 3µm arc length	±8,0"	±5,5"	±4,5"	±4,0"	±3,0"	±2,5"	±2,0"
Inside diameter ring [mm]	163,54	229,78	287,08	325,42	457,81	572,36	651,27
Mech. speed [min ⁻¹] ²⁾	23400	16600	13200	11700	8300	6600	5800
Max. angle acceleration [rad/s²] ²⁾	4000			3800	1500	650	450

¹⁾ The position error per grating period and the accuracy of the grating result together in the encoder specific error; additional deviations caused by mounting and bearing are not considered in this error.

²⁾ Values should be considered to ensure a mechanical fault exclusion.

Ordering code

- WMR Scale tape ring for incremental angle encoder
- Grating period 1000µm

WMR															10				-				-		MF		-											
Type 10 = Ring, Outside scanning 11 = Ring, Inside scanning															Type of graduation carrier Outside scanning: R001 = Scale tape ring Inside scanning: R004 = Scale tape ring without cover tape																							
Scanning A = Outside scanning I = Inside scanning										Line count 256 ¹⁾ 360 ¹⁾ 512 ¹⁾ 720 ¹⁾ 900 ¹⁾ 1024 1440 1800 2048										Safety concept MF = Fault exclusion for loosening of the mechanical connections possible					Reference mark position ORM= without reference marks 1RM= with 1 reference mark Kxxx= distance coded reference marks													
Grating period accuracy 3 = +/- 3µm 5 = +/- 5µm 10 = +/- 10µm																																						

¹⁾ Not for inside scanning.